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SECTION I: PURPOSE OF AND NEED FOR ACTION

Introduction

The National Park Service is considering constructing a second picnic area at South Cove, Arizona, within Lake Mead National Recreation Area (Figure 1). The work would include installing three picnic sites with grills, tables, shade structures, walks, and one additional restroom.

The environmental assessment (EA) evaluates the no action alternative and one action alternative. The alternatives analyzed are: Alternative A: No Action and Alternative B: Construct Picnic Area. This document also includes discussions of alternatives that have been ruled out and justifications for their elimination.

Purpose and Need

The picnic facilities at South Cove area were originally constructed below the high water elevations, and were not usable during periods of high water. During the last period of high water in 1998, the facilities were damaged and were removed from the area by the National Park Service. Since the water levels have decreased, the picnic facilities have been replaced in their original location.

The existing picnic facilities at South Cove receive tremendous use by the public because of the proximity to the water and the shade the structures provide. The facility serves as a picnic area for many residents of northern Mohave County, and for visitors from outside the local area. The need for the facility is normally the highest in the spring and fall, and it is also used during the summer months for water-based recreation.

Constructing new picnic facilities above the high water elevation would allow for use of the facilities at any water elevation. The picnic area would provide facilities for use by the handicapped public.

Background

In general, there are very few picnic areas and access points to Lake Mead due to the rugged terrain. In Arizona, there are only seven access points for vehicles for the area from Hoover Dam to Pearce Ferry, a distance of approximately 95 water miles and 150 miles of shoreline. South Cove is one of the primary access points to Lake Mead from Arizona. The area is visited by approximately 160,000 visitors a year. An estimated 4,500 visitors utilize the picnic area per year when it is accessible during low water elevations.

The existing facilities at South Cove also include a boat ramp, courtesy dock, parking lots, restrooms, and raft take-out facilities for Grand Canyon river trips. South Cove has 8 launch lanes, 116 pull-through parking spaces, and 53 single parking spaces.

Figure 1. Lake Mead National Recreation Area Region



PROJECT AREA LOCATION

South Cove, Arizona, is located on the eastern portion of Lake Mead, in northwestern Arizona (Figure 2). It is one of the major access points to Lake Mead from Arizona. It is approximately 10 miles from Meadview, Arizona, and 44 miles from Dolan Springs, Arizona. Access is from U.S. Highway 93 through Dolan Springs, on the Pearce Ferry Road.

ENVIRONMENTAL ASSESSMENT

This EA analyzes one action alternative and the no-action alternative and their impacts on the human and natural environment. It outlines project alternatives, describes existing conditions in the project area, and analyzes the effects of each project alternative on the environment. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the regulations of the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1508.9) and NPS DO-12.

RELATED PLANNING DOCUMENTS, AND APPLICABLE LAWS AND LEGISLATION

The South Cove area is included in the Gregg Basin/Grand Wash zone of the Lake Mead National Recreation Area *General Management Plan* (1986). This zone is considered an “Environmental Protection Subzone.” The general guidance provided in the General Management Plan was to maintain the primitive, isolated flavor of this zone. While the picnic area was not specifically addressed in the General Management Plan, it was added because park managers determined that a picnic area would not change the concept of a somewhat primitive area and would not attract commercial activities to the area. Plus it would serve a need of the local communities and the visitors to Lake Mead NRA.

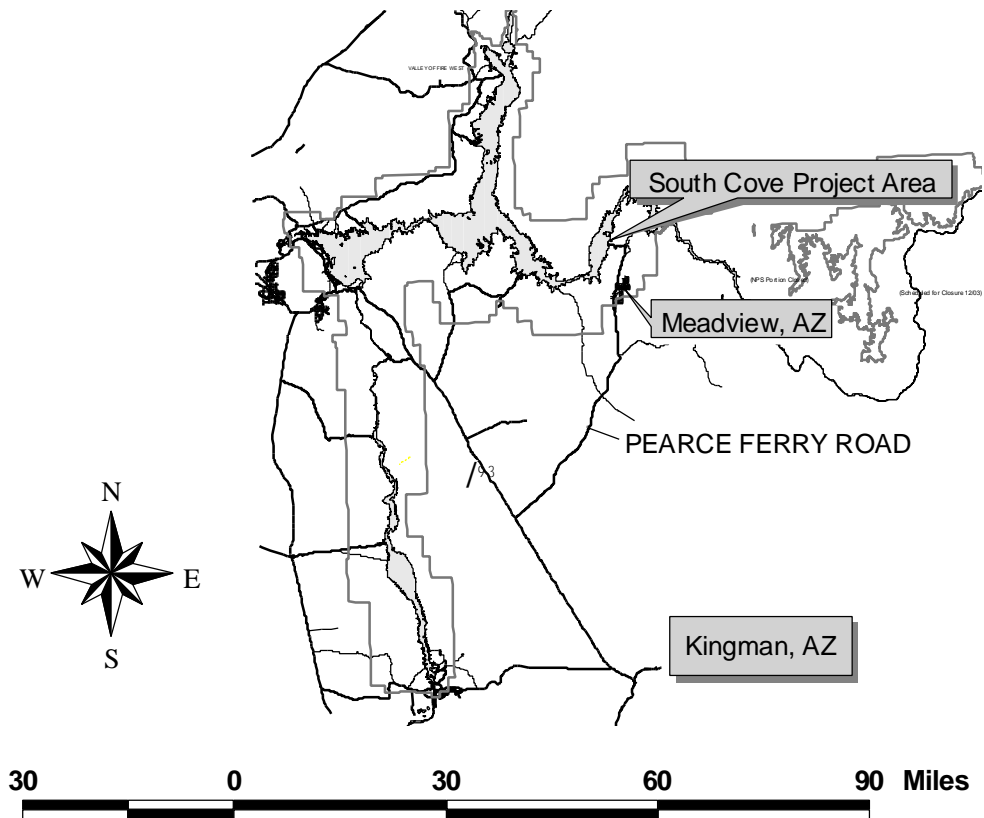
The *Lake Management Plan and draft Environmental Impact Statement* (2002) was developed because management issues surfaced that had not been adequately addressed in the *General Management Plan*. These issues relate to the increase in recreational use of the lakes, visitor conflicts and safety, potential impacts on park resources from water-related activities, and personal watercraft use. The preferred alternative within this document designated the South Cove area as a rural natural setting within the recreational opportunity zoning. The launch capacity for South Cove as determined in the *Lake Management Plan* is 116 vessels, which is its current level.

The state of Arizona Legislature authorized the establishment of the State Lake Improvement Fund Program (A.R.S. § 5-382) for the purpose of providing funds for developing facilities for public boating purposes. The proposed project was submitted to this program as a grant proposal.

All new recreational facilities are developed in accordance with the *Americans with Disabilities Act* Accessibility Guidelines (Recreation Facilities, 36 CFR part 1191). The NPS is currently conducting an accessibility assessment of buildings and recreational

Figure 2. Project Area Location

South Cove Project Area Lake Mead National Recreation Area



facilities park-wide to determine what is needed to bring existing facilities up to current standards.

The National Park Service Organic Act directs the National Park Service to manage units “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner as will leave them unimpaired for the enjoyment of future generations.” (16 U.S.C. § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that the National Park Service must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.” (16 U.S.C. § 1 a-1). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts. An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources and values.” (*Management Policies* 1.4.3).

Management Policies 2001 requires the analysis of potential effects of each alternative to determine if actions would impair park resources. To determine impairment, the National Park Service must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.” (*Management Policies* 1.4.4). The National Park Service must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the National Park Service management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment to the affected resources and values (*Management Policies* 1.4.3).

National Park Service units vary based on their enabling legislation, natural and cultural resources, missions, and the recreational opportunities appropriate for each unit, or for areas within each unit. The enabling legislation for Lake Mead NRA (PL 88-639), established the recreation area “for the general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area, consistent with applicable reservations and limitations relating to such area and with other authorized uses of the lands and properties within such area.” An action appropriate at Lake Mead NRA, as designated by the enabling legislation, may impair resources in another unit.

This environmental assessment analyzes the context, duration, and intensity of impacts related to constructing a new picnic facility at South Cove, Arizona, as well as the potential for resource impairment, as required by Director’s Order 12, *Conservation Planning, Environmental Impact Analysis and Decision Making*.

ISSUES AND IMPACT TOPICS

Issues are related to potential environmental effects of project alternatives and were identified by the project interdisciplinary team. Once issues were identified, they were used to help formulate the alternatives and mitigation measures. Impact topics based on substantive issues, environmental statutes, regulations, and executive orders (EOs) were selected for detailed analysis. A summary of the impact topics and rationale for their inclusion or dismissal is given below.

This project would occur in an established development zone within the recreation area, as identified in the Lake Mead National Recreation Area *General Management Plan* and *Lake Management Plan*. The area has high visitor use, and facilities including parking lots and restrooms, currently exist in the area. The proposed project would occur adjacent to an existing parking area, on a small portion of previously undisturbed area. Only negligible to minor impacts are expected as a result of the proposed project. Most issues can be discarded due to the nature and location of the proposed project.

Issues and Impact Topics Identified for Further Analysis

The issues associated to constructing a campground in the South Cove area include:

- ◆ Soils and Vegetation. Soils would be disturbed by the construction of the picnic facilities and vegetation would be removed for the picnic sites and trails.
- ◆ Wildlife. Small mammals, birds, and lizards located in the project site would be disturbed by construction activities and could be displaced.
- ◆ Air Quality. There could be minor temporary impacts during construction of the proposed picnic facilities.
- ◆ Visual Resources. The picnic area would be located in a developed area where facilities are currently in place and where visitors expect facilities.
- ◆ Cultural Resources. Cultural resources surveys have been conducted and none have been found in the project area.
- ◆ Visitor Use and Experience. Visitor use could increase due to the construction of picnic facilities. Visitors would benefit from additional facilities and improved access, and handicapped access.

Impact Topics Considered but Dismissed from Further Consideration

Public Safety

Mitigation would be employed during construction to protect the public from hazards associated with construction activities. Therefore, there would be no impact to public safety and this topic is dismissed from further consideration.

Special Status Species

After consulting the most recent U.S. Fish and Wildlife Service listing of threatened and endangered species (Appendix A), and based on surveys by the recreation area wildlife biologist and botanist, there are no threatened, endangered, or sensitive species located in the project area. There would be no effect to these species, therefore, this project does not require Section 7 consultations in accordance with the Endangered Species Act.

Water Resources

The project area is above the high water elevation and would not affect area water resources.

Socioeconomic Resources

Establishing a picnic area in the South Cove area would not have a measurable impact to the area socioeconomic resources, therefore this issue will not be further evaluated.

The following topics are not further addressed in this document because there are no potential effects to these resources, or the resources are not located in or near the project area:

- Soundscapes;
- Designated ecologically significant or critical areas;
- Adjacent lands;
- Wild or scenic rivers;
- Wetlands;
- Floodplains;
- Designated coastal zones;
- Indian Trust Resources;
- Prime and unique agricultural lands;
- Sites on the US Department of the Interior's National Registry of Natural Landmarks; or
- Sole or principal drinking water aquifers.

In addition, there are no potential conflicts between the project and land use plans, policies, or controls (including state, local, or Native American) for the project area.

Regarding energy requirements and conservation potential, construction activities would require the increased use of energy for the construction itself and for transporting materials. However, overall, the energy from petroleum products required to implement action alternatives would be insubstantial when viewed in light of production costs and the effect of the national and worldwide petroleum reserves.

There are no potential effects to local or regional employment, occupation, income changes, or tax base as a result of this project. The project area of effect is not populated and, per EO 12898 on Environmental Justice, there are no potential effects on minorities, Native Americans, women, or the civil liberties (associated with age, race, creed, color, national origin, or sex) of any American citizen. No disproportionate high or adverse effects to minority populations or low-income populations are expected to occur as a result of implementing any alternative.

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Table 1. Comparison of Alternatives

Alternative A – No Action	Alternative B – Construct Picnic Area
No site preparation for picnic facilities.	Site preparation and installation of picnic and fire grill slabs.
No construction of pathways and rock retaining walls.	Construction of pathways, sidewalks, and rock retaining walls.
No placement of picnic tables, shelters and grills.	Placement of picnic tables, grills, and shelters.
No additional restroom.	Placement of an additional restroom.
No accessible site exists at South Cove.	Site would be accessible.
	Demolition of 155 feet of existing cracked sidewalk.

SECTION II: DESCRIPTION OF ALTERNATIVES

Introduction

This section describes the alternatives considered, including the No Action Alternative. The alternatives described include mitigation measures and monitoring activities proposed to minimize or avoid environmental impacts. This section also includes a description of alternatives considered early in the process but later eliminated from further study; reasons for their dismissal are provided.

Alternative A- No Action

Under this alternative, no construction of a picnic facility would occur at South Cove. There would continue to be a limited area available for the public to use at South Cove for picnicking activities. This area would not be available during periods of high water and it would not be accessible.

Alternative B- Construct Picnic Facility

Under this alternative, picnic sites would be constructed adjacent to an existing parking lot at South Cove. The construction would include the installation of three group sites with grills, tables, shade structures, sidewalks, and one additional restroom (Figures 3, 4, 5 and 6). The sites would be constructed above the high water elevation. Additional parking would not be needed.

Mitigation and Monitoring

Mitigation measures are specific actions designed to minimize, reduce, or eliminate impacts of alternatives and to protect Lake Mead NRA resources and visitors.

Monitoring activities are actions to be implemented during or following construction.

The following mitigation related to constructing a picnic facility would be implemented under alternative B, and are assumed in the analysis of effects under alternative B.

Natural Resources

Vegetation and Soils:

- Topsoil would be conserved and replaced and disturbed areas would be mulched, seeded, and/ or planted with native seed.
- The area would be surveyed prior to construction and appropriate plants, as determined by the park restoration specialist, would be removed and replanted after construction.

- All operations would be confined to the work limits of the project. Damaged areas would be restored, repaired, and plants would be replaced.

Wildlife

- Signs would be posted and trash receptacles would be placed near the picnic area to prevent wildlife from habituating to human food sources.

Air Quality:

- Dust control measures would be employed by the contractors to minimize the impacts to air quality associated with ground disturbance and construction activities. All necessary reasonable measures will be taken to reduce air pollution, including wetting down dry materials to prevent blowing dust, utilizing or removing excavated materials as soon as possible, and keeping the project neat, orderly, and in a safe condition at all times.

Cultural Resources

- The project area has been inventoried for cultural resources and no archeological sites were located (Ervin 1986, Gushue 2003). Construction of the picnic facility and associated activities will have no effect on cultural resources. If concealed archeological resources are encountered during project activities, all necessary steps will be taken to protect them and to notify the park archeologist and/or cultural resources specialist immediately.
- The NPS will consult with the appropriate Native American groups as required by the various laws, regulations, and executive orders.

Visual Resources

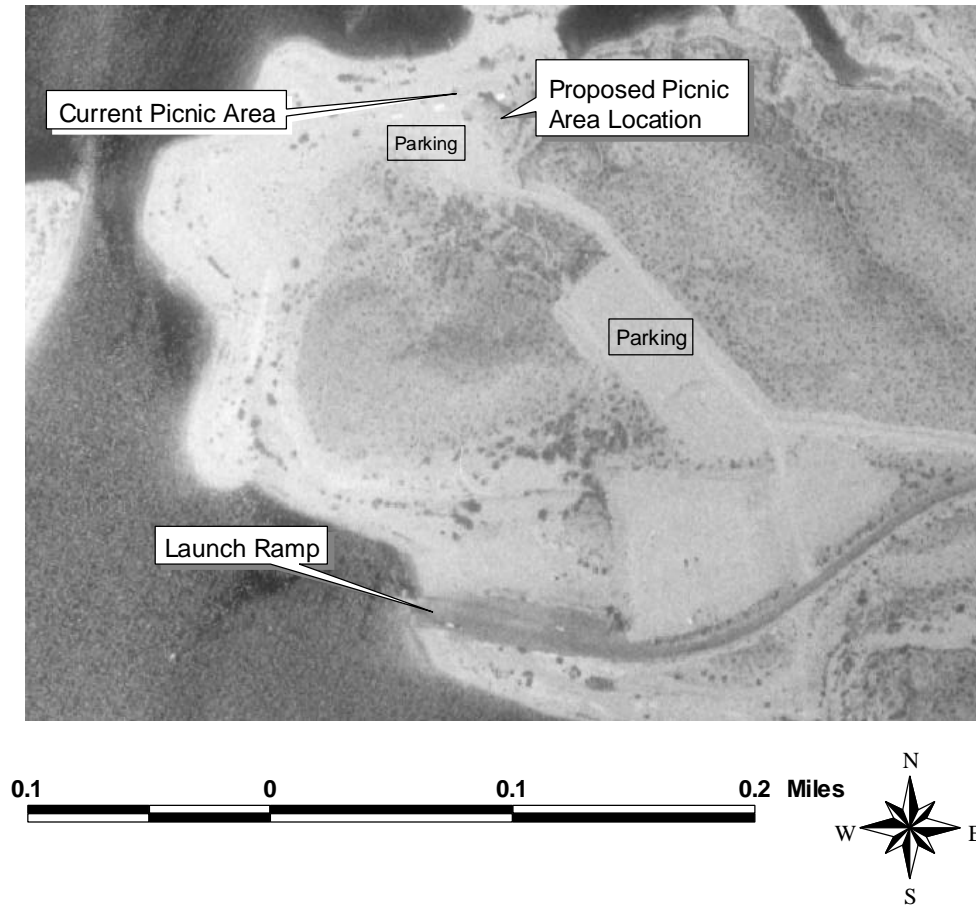
- The proposed picnic facilities have been designed in accordance with National Park Service standards and would not result in a visual intrusion.

Visitor Use and Experience, and Public Safety

- The parking lot adjacent to the proposed picnic facility would be temporarily closed during to construction activities.
- Barriers would be placed and maintained by the contractor to protect existing facilities and the public from construction operations. Danger signals, lights, and warning signs would be placed around the construction zone.
- An orange, plastic safety barrier fence would be used to designate the construction limits.

Figure 3. Proposed Project Area

South Cove, Arizona Project Area



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Figures 4 and 5. Project Area



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ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

Extending the picnic area to the north and the south was considered, but ruled out because of the problems associated with the high water. High water elevations cause an inconvenience to the public, can damage the picnic facilities, and can create navigational hazards.

PERMIT REQUIREMENTS

No permits are necessary in order to complete the proposed project.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is the alternative that will promote NEPA, as expressed in Section 101 of NEPA. This alternative will satisfy the following requirements:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable or unintended consequences;
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and,
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative B is the environmentally preferable alternative because overall it would best meet the requirements in Section 101 of NEPA. It would assure for all generations a safe, healthful, and esthetically pleasing surrounding. Establishing a picnic facility would allow for a wide range of beneficial uses of the environment by visitors without degradation, risk to health or safety, or other undesirable or unintended consequences. It would achieve a balance between population and resource use, and permit high standards of living and a wide sharing of life's amenities.

Comparison of Impacts

Table 2 summarizes the potential long-term impacts of the proposed alternative. Short-term impacts are not included in this table, but are analyzed in the Environmental

Consequences section. Impact intensity, context, and duration are also defined in the Environmental Consequences section.

Table 2. Summary of Potential Long-Term Impacts

Impact Topics	Alternative A	Alternative B
Soils and Vegetation	No effect	Negligible to minor adverse long-term effects
Wildlife	No effect	Negligible to minor adverse long-term effects
Air Quality	No effect	No long-term effect
Visual Resources	No effect	Minor to moderate adverse long-term effects
Cultural Resources	No effect	No effect
Visitor Use and Experience	Long-term adverse impact due to lack of available picnic facilities.	Long-term beneficial effects from improved visitor facilities.

SECTION III: AFFECTED ENVIRONMENT

Introduction

This section provides a description of the existing environment in the project area and the resources that may be affected by the proposal and alternatives under consideration. Complete and detailed descriptions of the environment and existing use at Lake Mead NRA is found in the *Lake Mead NRA Resource Management Plan* (NPS 1999), the *Lake Mead NRA General Management Plan* (NPS 1986), and the *Lake Management Plan and draft Environmental Impact Statement* (2002). In addition, the National Park Service website for Lake Mead NRA provides a wealth of information about the natural and cultural environment of the recreation area (www.nps.gov/lame).

Natural Resources

The South Cove area is located on the eastern arm of Lake Mead, in Gregg's Basin, near the boundary with Grand Canyon National Park in northwestern Arizona. The lakeshore and bajada environment is typical of the desert shrub and desert wash communities. Common vegetation includes brittlebush (*Encelia farinosa*), rabbitbrush (*Chrysothamnus* sp.), creosote (*Larrea tridentata*), and white bursage (*Ambrosia dumosa*). In addition, cactus occurs adjacent to the project area, including barrel cactus (*Ferocactus cylindraceus*) and buckhorn cholla (*Opuntia acanthocarpa* var. *colorado*). In the hills east of the project site, ocotillo (*Fouquieria splendens*) has been recorded. Along the shoreline, non-native tamarisk (*Tamarix* spp.) is the dominant vegetation.

Wildlife in the project area is generally small mammals, birds, and reptiles, such as lizards. Desert cottontail, ground squirrels, and numerous lizards can be found in the area.

After consulting the Listing of Sensitive, Threatened, and Endangered Species provided by the U.S. Fish and Wildlife Service (May 2001), biologists at Lake Mead NRA have determined that there are no special status species within or adjacent to the project area.

Air Quality

Lake Mead NRA is designated as a Class II air quality area, and air quality in the region is generally good. Class II areas are parts of the country protected under the Clean Air Act but identified for somewhat less stringent protection from air pollution damage than a Class I area, except in specified cases. On the eastern boundary of the recreation area is Grand Canyon National Park, which is designated as a Class I air quality area.

Soundscapes

Noise-sensitive receptors are those locations where activities that could be affected by increased noise levels occur and include locations such as residences, motels, churches, schools, parks, and libraries. Existing noise levels are determined for the outdoor living area at sensitive receptors. There are no sensitive receptors in the project area, other than Lake Mead NRA. The dominant noise source in the project area is automobile traffic from the access road, and boat traffic on Lake Mead.

Cultural Resources

Significant prehistoric and historic resources are known to occur within Lake Mead National Recreation Area. More than 1,200 archeological sites have been recorded in the recreation area. Most of these sites are unevaluated and are considered eligible for the National Register of Historic Places. Lake Mead NRA has two designated traditional cultural properties, and a variety of traditional cultural areas and sacred sites. Historic resources related to settlement, ranching, mining, exploration, and the construction of Hoover Dam exist within the recreation area.

The South Cove area has been inventoried for cultural resources and no archeological sites were found (Ervin 1986). On December 11, 2002, a reconnaissance survey of the project area was conducted and no archeological sites were located (Gushue 2003).

Visitor Use

Lake Mead NRA receives 9 to 10 million visitors annually. Many of these visitors are involved in water-based recreational activities between May and September. The South Cove area is visited by approximately 160,000 visitors a year. Visitor use is typically highest in the spring and fall on the weekends. Visitor use of the shoreline and boat ramp has been steadily increasing during the summer months as other lake facilities, such as Katherine Landing, are operating at capacity, and visitors look elsewhere for recreational opportunities.

SECTION IV: ENVIRONMENTAL CONSEQUENCES

Introduction

This section presents the likely beneficial and adverse effects to the natural and human environment that would result from implementing the alternatives under consideration. This section describes short-term and long-term effects, direct and indirect effects, cumulative effects, and the potential for each alternative to impair park resources. Interpretation of impacts in terms of their duration, intensity (or magnitude), and context (local, regional, or national effects) are provided where possible.

Methodology

This section contains the environmental impacts, including direct and indirect effects and their significance to the alternatives. It also assumes that the mitigation identified in the *Mitigation and Monitoring* section of this EA would be implemented under any of the applicable alternatives, as identified in each mitigation criteria.

Impact analyses and conclusions are based on NPS staff knowledge of resources and the project area, review of existing literature, and information provided by experts in the NPS or other agencies. Any impacts described in this section are based on preliminary design of the alternatives under consideration. Effects are quantified where possible; in the absence of quantitative data, best professional judgment prevailed.

Criteria and Thresholds for Impact Analysis

The following are laws, regulations, and/ or guidance that relates to the evaluation of each impact topic.

Geologic Resources and Soils

Laws, Regulations, and Policies: NPS Management Policies (4.8) stipulates that the NPS will preserve and protect geologic resources as integral components of park natural systems. Geologic resources includes geologic features and geologic processes. The fundamental policy, as stated in the NPS Natural Resources Management Guideline (NPS-77) is the preservation of the geologic resources of parks in their natural condition whenever possible.

Soil resources would be protected by preventing or minimizing adverse potentially irreversible impacts on soils, in accordance with NPS Management Policies. NPS-77 specified objectives for each management zone for soil resources management. These management objectives are defined as: (1) natural zone- preserve natural soils and the processes of soil genesis in a condition undisturbed by humans; (2) cultural zone- conserve soil resources to the extent possible consistent with maintenance of the historic and cultural scene and prevent soil erosion wherever possible; (3) park development zone- ensure that developments and their management are consistent with soil limitations and soil conservation practices; and, (4) special use zone- minimize soil loss and

disturbance caused by special use activities, and ensure that soils retain their productivity and potential for reclamation.

Zones within the recreation area have been designated in the Lake Mead NRA General Management Plan, which provides the overall guidance and management direction for Lake Mead NRA.

Impact Indicators, Criteria, and Methodology: The following impact thresholds were established for the project area.

- *Negligible impacts:* Impacts have no measurable or perceptible changes in soil structure and occur in a relatively small area.
- *Minor impacts:* Impacts are measurable or perceptible, but localized in a relatively small area. The overall soil structure would not be affected.
- *Moderate impacts:* Impacts would be localized and small in size, but would cause a permanent change in the soil structure in that particular area.
- *Major impacts:* Impact to the soil structure would be substantial, highly noticeable, and permanent.
- *Impairment:* For this analysis, impairment is considered a permanent change in a large portion of the overall acreage of the park, affecting the resource to the point that the park's purpose could not be fulfilled and the resource would be degraded precluding the enjoyment of future generations.

Vegetation

Laws, Regulations, and Policies: The NPS Organic Act directs the park to conserve the scenery and the natural objects unimpaired for future generations. *NPS Management Policies* defines the general principles for managing biological resources as maintaining all native plants and animals as part of the natural ecosystem. When NPS management actions cause native vegetation to be removed, then the NPS will seek to ensure that such removals will not cause unacceptable impacts to native resource, natural process, or other park resources.

Exotic species, also referred to as non-native or alien, are not a natural component of the ecosystem. They are managed, up to and including eradication, under the criteria specified in *Management Policies* and *NPS-77*.

Impact Indicators, Criteria, and Methodology: The impacts of vegetation were evaluated in terms of impacts to native vegetation and non-native vegetation. The following were used in interpreting the level of impact to vegetation:

- *Negligible impacts:* Impacts have no measurable or perceptible changes in plant community size, integrity, or continuity.
- *Minor impacts:* Impacts are measurable or perceptible and localized within a relatively small area. The overall viability of the plant community would not be affected and, if left alone, would recover.
- *Moderate impacts:* Impacts would cause a change in the plant community (e.g. abundance, distribution, quantity, or quality); however, the impact would remain localized.
- *Major impacts:* Impacts to the plant community would be substantial, highly noticeable, and permanent.
- *Impairment:* The impact would contribute substantially to the deterioration of the park's native vegetation. These resources would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan*, *Strategic Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations.

Wildlife and Wildlife Habitat

Laws, Regulations, and Policies: The NPS Organic Act, which directs parks to conserve wildlife unimpaired for future generations, is interpreted by the NPS to mean native animal life should be protected and perpetuated as part of the recreation area's natural ecosystem. Natural processes are relied on to control populations of native species to the greatest extent possible. The restoration of native species is a high priority. Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity, and ecological integrity of plants and animals.

The recreation area also manages and monitors wildlife cooperatively with the Arizona Game and Fish department and the Nevada Division of Wildlife.

Impact Indicators, Criteria, and Methodology: The impacts of wildlife were evaluated in terms of impacts to individual animals and wildlife habitat. Specific localized impacts were estimated based on knowledge garnered from similar past activities.

The following are standards used by the NPS in interpreting the level of impact to wildlife:

- *Negligible impacts:* No species of concern is present; no impacts or impacts with only temporary effects are expected.
- *Minor impacts:* Nonbreeding animals of concern are present, but only in low numbers. Habitat is not critical for survival; other habitat is available nearby.

Occasional flight responses by wildlife are expected, but without interference with feeding, reproduction, or other activities necessary for survival.

- *Moderate impacts:* Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or winter; mortality or interference with activities necessary for survival expected on an occasional basis, but not expected to threaten the continued existence of the species in the park.
- *Major impacts:* Breeding animals are present in relatively high numbers, and/or wildlife is present during particularly vulnerable life stages. Habitat targeted by actions has a history of use by wildlife during critical periods, but there is suitable habitat for use nearby. Few incidents of mortality could occur, but the continued survival of the species is not at risk.
- *Impairment:* The impact would contribute substantially to the deterioration of natural resources to the extent that the park's wildlife and habitat would no longer function as a natural system. Wildlife and its habitat would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan*, *Strategic Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations.

Cultural Resources

Laws, Regulations, and Policies: Numerous legislative acts, regulations, and NPS policies provide direction for the protection, preservation, and management of cultural resources on public lands. Further, these laws and policies establish what must be considered in general management planning and how cultural resources must be managed in future undertakings resulting from the approved plan regardless of the final alternative chosen. Applicable laws and regulations include the NPS Organic Act (1916), the Antiquities Act of 1906, the National Historic Preservation Act of 1966 (1992, as amended), the National Environmental Policy Act of 1969, the National Parks and Recreation Act of 1978, the Archeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act of 1990, and the Curation of Federally Owned and Administered Archeological Collections (1991).

Applicable agency policies relevant to cultural resources include Chapter 5 of NPS *Management Policies*, and the *Cultural Resource Management Guideline (DO-28)*, as well as other related policy directives such as the NPS *Museum Handbook*, the NPS *Manual for Museums*, and *Interpretation and Visitor Services Guidelines (NPS-26)*.

The Antiquities Act of 1906 (P.L. 209) authorized the president to establish historic landmarks and structures as monuments owned or controlled by the U.S. government and instituted a fine for unauthorized collection of their artifacts.

The NPS Organic Act (16 USC 1-4) established the agency to manage the parks and monuments with the purpose of conserving historic objects within them and providing for their enjoyment.

The National Historic Preservation Act of 1966 (NHPA; 16 USC 470, et seq.) requires in section 106 that federal agencies with direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on properties that are listed on, or eligible for listing on, the National Register of Historic Places. Section 110 of the act further requires federal land managers to establish programs in consultation with the state historic preservation office to identify, evaluate, and nominate properties to the national register. This act applies to all federal undertakings or projects requiring federal funds or permits.

The National Environmental Policy Act of 1969 (NEPA; P.L. 91-190) sets forth federal policy to preserve important historic, cultural, and natural aspects of our national heritage and accomplishes this by assisting federal managers in making sound decisions based on an objective understanding of the potential environmental consequences of proposed management alternatives. This act applies to any federal project or other project requiring federal funding or licensing. This act requires federal agencies to use a systematic, interdisciplinary approach integrating natural and social sciences to identify and objectively evaluate all reasonable alternatives to a proposed action.

The National Parks and Recreation Act of 1978 (P.L. 95-625) requires that general management plans be developed for each unit in the national park system and that they include, among other things, measures for the preservation for the area's resources and an indication of the types and intensities of development associated with public use of a given unit.

The Archeological Resources Protection Act of 1979 (16 USC 470aa-mm) further codifies the federal government's efforts to protect and preserve archeological resources on public lands by stiffening criminal penalties, as well as instituting civil penalties, for the unauthorized collection of artifacts. Additionally, it establishes a permit system for the excavation and removal of artifacts from public lands, including their final disposition, as well as confidentiality provisions for sensitive site location information where the release of such information may endanger the resource.

The Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) sets forth procedures for determining the final disposition of any human remains, funerary objects, or objects of cultural patrimony that are discovered on public lands or during the course of a federal undertaking.

"The Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) establishes guidelines and procedures for the proper curation and management of archeological collections owned or administered by federal agencies.

Impact Indicators, Criteria, and Methodology: Impacts on cultural resources were developed based on existing conditions, current regulations, and likely development trends. The inventory of archaeological resources in the park is largely incomplete. For purposes of assessing impacts, all unrecorded resources are considered potentially eligible for listing on the National Register of Historic Places.

The park's inventory of standing structures and cultural landscapes is relatively complete, however, many structures and landscapes still require evaluation to determine their eligibility for listing on the National Register of Historic Places. For purposes of assessing potential impacts to these properties, unevaluated structures and landscapes are assumed to be potentially eligible.

Under section 106, only historic resources that are eligible or are listed on the National Register of Historic Places are considered for impacts. An impact, or effect, to a property occurs if a proposed action would alter in any way the characteristic that qualify it for inclusion on the register. If the proposed action would diminish the integrity of any of these characteristics, it is considered to be an adverse effect.

For the purposes of this document, the level of impacts to cultural resources was accomplished using the following criteria:

- *Negligible impacts:* No potentially eligible or listed properties are present; no direct or indirect impacts.
- *Minor impacts:* Potentially eligible or listed properties are present; no direct impacts or impacts with only temporary effects are expected.
- *Moderate impacts:* Potentially eligible or listed properties are present; indirect impacts or, in the case of structures, where activity is limited to rehabilitation conducted in a manner that preserves the historical and architectural value of the property.
- *Major impacts:* Potentially eligible or listed properties present; direct impacts including physical destruction, damage, or alternation of all or part of a property. Isolation of a property from or alteration of the character of a property's setting when that character contributes to its eligibility, including removal from its historic location. Introduction of visual, audible, or atmospheric elements that are out of character with the property of alter its setting. Neglect of a property resulting in its deterioration or destruction (36 CFR 800.5).
- *Impairment:* Loss, destruction, or degradation of a cultural property, resource, or value to the point that it negatively affects the park's purpose and visitor experience.

In the absence of quantitative data concerning the full extent of actions under a proposed alternative, best professional judgement prevailed.

Air Quality

Laws, Regulations, and Policies: Air pollution sources within parks must comply with all federal, state, and local regulations. The regulations and policies that govern pollutants of concern are discussed briefly below.

Lake Mead NRA is designated as a Class II Air Quality area under the Clean Air Act. The main purpose of this act is to protect and enhance the nation's air quality to promote the public health and welfare. The act establishes specific programs to provide protection for air resources and values, including the program to prevent significant deterioration of air quality in clean air regions of the country. Although Lake Mead NRA is designated as a Class II Air Quality area, the park strives to maintain the highest air quality standards, and project work within the recreation area is completed in accordance with regional standards. However, the recreation area does not possess sufficient autonomous authority to address issues of air quality improvements when air pollution originates outside the boundaries.

NPS Management Policies direct parks to seek to perpetuate the best possible air quality to preserve natural and cultural resources, sustain visitor enjoyment, human health, and preserve scenic vistas (4.7). Parks are directed to comply with all federal, state, and local air quality regulations and permitting requirements. In cases of doubt as to the impacts of existing or potential air pollution on park resources, the NPS "will err on the side of protecting air quality and related values for future generations."

Impact Indicators, Criteria, and Methodology: Information from the literature was used to assess probable impacts to air quality. There are four impact categories relevant to air quality issues: negligible, minor, moderate and major. Each category is discussed below relative to potential airborne pollution impacts from the alternatives on park resources and human health.

- *Negligible impacts:* There is no smell of exhaust and no visible smoke. Dust from construction activities can be controlled by mitigation.
- *Minor impacts:* There is a slight smell of exhaust and smoke is visible during brief periods of time. Dust from use the dirt roads is visible during brief periods. Dust from construction activities is visible only during the work period, but most can be controlled by mitigation.
- *Moderate impacts:* There is a smell of gasoline fumes and exhaust in high-use areas. Smoke is visible during periods of high use. Dust from the use of dirt roads is visible for an extended area. Dust from construction activities is visible for an extended area for an extended period, but is reduced by mitigation.

- *Major impacts:* Smoke and gasoline fumes are easily detectable for extended periods of time in a large area. Dust from the use of dirt roads and construction activities is visible for an extended period for an extended amount of time, and mitigation is unable to alleviate the conditions.

Criteria and Thresholds for Impact Analyses of all Other Issues

Impacts to visual quality and the visitor experience, were analyzed using the best available information and best professional judgment of park staff.

Terms referring to impact intensity, context, and duration are used in the effects analysis. Unless otherwise stated, the standard definitions for these terms are as follows:

- *Negligible impacts:* The impact is at the lower level of detection; there would be no measurable change.
- *Minor impacts:* The impact is slight but detectable; there would be a small change.
- *Moderate impacts:* The impact is readily apparent; there would be a measurable change that could result in a small but permanent change.
- *Major impacts:* The impact is severe; there would be a highly noticeable, permanent measurable change.
- *Localized Impact:* The impact occurs in a specific site or area. When comparing changes to existing conditions, the impacts are detectable only in the localized area.
- *Short-Term Effect:* The effect occurs only during or immediately after implementation of the alternative.
- *Long-Term Effect:* The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more and could be beneficial or adverse.

Impairment Analysis

In addition to determining the environmental consequences of the alternatives, NPS Management Policies 2001, requires the analysis of potential effects to determine if actions would impair park resources. Under the NPS Organic Act and the General Authorities Act, as amended, the NPS may not allow the impairment of park resources and values except as authorized specifically by Congress. The NPS must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the

purposes of a park, as long as the impact does not constitute impairment to the affected resources and values (Management Policies 1.4.3).

Impairment to park resources and values have been analyzed within this document. Impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is necessary to fulfill specific purposes identified in the enabling legislation or proclamation of the park; is the key to the cultural or natural integrity of the park or to opportunities for enjoyment of the park; or as identified as a goal in the park's general management plan or other relevant NPS planning document. An impact would be less likely to constitute an impairment to the extent that it is an unavoidable result, which cannot be reasonably further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.

Cumulative Effects

Cumulative effects are the direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action (40 CFR Part 1508.7). Guidance for implementing NEPA (Public Law 91-190, 1970) requires that federal agencies identify the temporal and geographic boundaries within which they will evaluate potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. This includes potential actions within and outside the recreation area boundary. The geographical boundaries of analysis vary depending on the impact topic and potential effects. While this information may be inexact at this time, major sources of impacts have been assessed as accurately and completely as possible, using all available data.

Specific projects with the potential to cumulatively affect the resources (impact topics) evaluated for the project are identified below. Some impact topics would be affected by several or all of the described activities, while others could be affected very little or not at all. How each alternative would incrementally contribute to potential impacts for a resource is included in the cumulative effects discussion for each impact topic.

Growth in the Las Vegas Valley and the surrounding area is considered when discussing cumulative effects. The Las Vegas Valley was developed in conjunction with the railroads in the early 1900s. After that, the establishment of legalized gambling in 1910, construction of the Hoover Dam in 1935, and World War II continued to promote urban growth. During the 1930s, Las Vegas was a small railroad town with a population of just over 5,000. By 1960, Las Vegas' population was over 64,000 (Clark County's was 127,000), and by 1980 it was approximately 164,000 (Clark County's was 463,000). Starting in the mid-1980s, annual population increases averaging nearly seven percent caused Las Vegas' population to almost double between 1985 and 1995, increasing from about 186,000 to 368,000, a 97.6% increase. At the same time, Clark County's population increased from 562,000 to 1,036,000, an increase of 84.3% (Las Vegas City

2001a). The July 2000 population estimate for Las Vegas was 482,874 (Las Vegas City 2001b). The latest population prediction in the Las Vegas Valley is for two million people by 2005 (Las Vegas City 2001a).

With the predicted increases in population in the local area, and continuing visitation from California and Arizona, park visitation will continue to increase above the current 8 to 10 million visitors per year.

Low water conditions at Lake Mead are considered in the discussion of cumulative impacts. The Bureau of Reclamation predicts that lake levels will continue to drop in the future, to 1,143 feet above mean sea level. When lake elevations are below 1,183 feet above mean sea level, Pearce Ferry can no longer be utilized as a takeout area for rafts and other motorized vessels. Therefore, both commercial and private use of the South Cove area increases during these periods.

ALTERNATIVE A- NO ACTION

Natural Resources

Soils and Vegetation: No effect

Conclusion: No effect, no impairment.

Wildlife: No effect

Conclusion: No effect, no impairment.

Cultural Resources: No effect

Conclusion: No effect. No impairment.

Air Quality

No effect

Conclusion: No effect. No impairment.

Visual Resources

No effect

Conclusion: No effect. No impairment.

Visitor Experience and Public Safety

No additional picnic facilities would be available for public use. No accessible picnic facilities would be available in the South Cove area. Visitors may be disappointed when facilities are either filled to capacity, or not available due to low water conditions.

Cumulative Effects: Visitors may look elsewhere for recreational experiences, leading to increased use of facilities in northern Arizona.

Conclusion: Visitors may be dissatisfied with the recreational experience at the South Cove area of Lake Mead NRA.

ALTERNATIVE B-Construct Picnic Area at South Cove

Natural Resources

Soils and Vegetation. Approximately 16,000 square feet or 0.37 acres of desert soil and vegetation will be modified under this alternative. The vegetation in this area consists primarily of desert shrubs and grasses, including creosote, rabbit brush, bursage, and brittlebush. Disturbance would be mitigated through topsoil replacement.

Cumulative Effects: Development in the South Cove area has permanently modified approximately 50 acres of desert habitat. This project would add to that acreage slightly. However, considering the area was modified permanently by the construction of Hoover Dam, and the amount of acreage available nearby that has not been modified, this is considered a minor impact.

Conclusion: The overall acreage that would be permanently modified under this alternative is 0.37 acres. Since this impact would result in perceptible impacts, localized in a relatively small area, not affecting the overall viability of the plant community, it is considered a minor impact. Based on the evaluation of impacts, there would be no impairment to soils and vegetation under this alternative.

Wildlife. The wildlife in the impact area is primarily small mammals, lizards, and birds. It is not considered a high quality habitat since it is so close to a parking lot and areas of high visitor use.

There would be temporary impacts to wildlife during construction from disturbance by vehicles, noise, and human activity. It is likely that most wildlife would move out of the area during construction, though some individuals could be lost due to the use of heavy equipment.

After construction, the wildlife could move back into the area. The area would be permanently modified, and 0.37 acres of low quality habitat would be permanently lost.

A picnic area could lead to increased use by wildlife, such as small mammals and birds, due to the presence of food sources from humans. This could cause unnatural concentrations of certain species, such as ravens and ground squirrels, and habituation of wildlife to human food sources. Signs would be posted and trash receptacles would be placed nearby to alleviate this impact.

Cumulative Effects: Development in the South Cove area has permanently modified 0.37 acres of wildlife habitat. However, this is considered minor when compared with the acreage modified due to the construction of Hoover Dam. In addition, there is a large amount of protected high quality wildlife habitat nearby the project area. Therefore, this impact would be minor.

Conclusion: Since no species of concern is present in the project area, habitat is not critical for survival, and other habitat is available nearby, this alternative would have negligible to minor impacts on wildlife species. There would be no impairment to wildlife based on the impacts associated with this alternative.

Cultural Resources

Direct and Indirect Effects: There are no cultural resources in the project area. This project will have no effect on cultural resources.

Cumulative Effects: No effect

Conclusion: There would be no impairment to cultural resources based on the impacts associated with this alternative.

Air Quality

Air quality around the project area would be temporarily impacted due to construction activities. Construction equipment would create dust when disturbing the soils, and generate smoke and fumes. Required mitigation, including the use of low sulfur fuel, when available, and watering disturbed areas, would reduce these impacts.

Cumulative Effects: Air quality in Lake Mead NRA can be periodically impacted by regional dust and haze. This project would not add to that impact.

Conclusion: Impacts to air quality would occur temporarily, during construction, and can be controlled by mitigation. Therefore, this alternative would have minor impacts on air quality in the project area. There would be no impairment to air quality as a result of implementing this alternative.

Visual Resources

This alternative would place additional structures within an existing developed area. The structures would be built to NPS standards to reduce the visual impact, but it would be a permanent change to a small area.

Cumulative Effects: The South Cove area has been improved in the past several years, with the addition of parking lots and restroom facilities. This alternative would provide an additional picnic area. However, since it would be constructed within an existing developed area, and visitors have the expectation of human made structures, the overall cumulative impact would be minor.

Conclusion: This alternative would permanently change the visual resources, but it would occur within an existing developed area where visitors have expectations of human-made structures. Therefore, the impact would be minor to moderate. There would be no impairment to the visual resources based on the impacts associated with this alternative.

Visitor Experience and Public Safety

This alternative would result in improved visitor services at South Cove. Additional picnic facilities would be available for visitor use year round, regardless of lake elevations. Visitors requiring accessible facilities would benefit from the implementation of this alternative.

Cumulative Effects: Visitor use may continue to increase at South Cove as other facilities in Arizona and elsewhere in the region reach capacities or are too crowded. This could lead to increased use of the facilities, and increased need for maintenance and replacement. Overall, there could be a greater demand for services in the South Cove area. Until that time, the new picnic areas would provide visitors with additional facilities that could improve their recreational experiences.

Conclusion: In the short-term, the additional picnic facility would benefit the visitor by providing improved visitor services.

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SECTION V: COORDINATION AND CONSULTATION

Scoping for this environmental assessment was conducted through press release notifications between November 6 and December 6, 2002 (Appendix B). No comments were received. Public notice of the availability of this environmental assessment was published in local newspapers, and on the Lake Mead NRA Internet Web site (<http://www.nps.gov/lame>). Individuals and organizations could request the environmental assessment in writing, by phone, or by e-mail. The environmental assessment was circulated to various federal and state agencies, individuals, businesses, and organizations on the park's mailing list for a 30-day public review period. Copies of the environmental assessment were made available at area libraries.

A copy of the environmental assessment can be obtained by direct request to:

Resource Management Division, Compliance Branch
National Park Service
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, Nevada 89005
Telephone: (702) 293-8956
Facsimile: (702) 293-8008

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SECTION VI: LIST OF PREPARERS

Nancy Hendricks, Environmental Compliance Specialist

Lucy Gonyea, Assistant Chief, Maintenance

Chanteil Walter, Environmental Compliance Technician

Steve Daron, Archeologist

Rosie Pepito, Cultural Resource Specialist

Michael Boyles, Wildlife Biologist

Libby Powell, Botanist

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Appendix A

U.S. Fish and Wildlife Service Listing of Threatened and Endangered Species

(accessed from <http://ifw2es.fws.gov/EndangeredSpecies/lists/ListSpecies.cfm> on January 8, 2003)

Mohave County

<u>Common Name</u>	<u>Scientific Name</u>	<u>Listing Status</u>	<u>More Info</u>
Arizona cliff-rose	<i>Purshia subintegra</i>	E	P
bald eagle	<i>Haliaeetus leucocephalus</i>	AD, T	P
bonytail chub	<i>Gila elegans</i>	E	P
brown pelican	<i>Pelecanus occidentalis</i>	DM, E	P
California condor	<i>Gymnogyps californianus</i>	E, EXPN	P
desert tortoise	<i>Gopherus agassizii</i>	SAT, T	P
Fickeisen plains cactus	<i>Pediocactus peeblesianus fickeiseniae</i>	C	P
Holmgren milk-vetch	<i>Astragalus holmgreniorum</i>	E	P
Hualapai Mexican vole	<i>Microtus mexicanus hualpaiensis</i>	E	P
humpback chub	<i>Gila cypha</i>	E	P
Jones cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T	P
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	P
razorback sucker	<i>Xyrauchen texanus</i>	E	P
Siler pincushion cactus	<i>Pediocactus</i> (= <i>Echinocactus</i> , = <i>Utahia</i>) <i>sileri</i>	T	P
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	P
Virgin River chub	<i>Gila robusta seminuda</i>	E	P
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C	P
woundfin	<i>Plagopterus argentissimus</i>	E, EXPN	P
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	P

E -- Endangered

T -- Threatened

EmE -- Emergency Listing, Endangered

EmT -- Emergency Listing Threatened

EXPE, XE -- Experimental Population, Essential

EXPN, XN -- Experimental Population, Non-Essential

SAE, E(S/A) -- Similarity of Appearance to an Endangered Taxon

SAT, T(S/A) -- Similarity of Appearance to a Threatened Taxon

PE -- Proposed Endangered

PT -- Proposed Threatened

PEXPE, PXE -- Proposed Experimental Population, Essential

PEXPN, PXN -- Proposed Experimental Population, Non-Essential

PSAE, PE(S/A) -- Proposed Similarity of Appearance to an Endangered Taxon

PSAT, PT(S/A) -- Proposed Similarity of Appearance to a Threatened Taxon

C -- Candidate Taxon, Ready for Proposal

D3A -- Delisted Taxon, Evidently Extinct

D3B -- Delisted Taxon, Invalid Name in Current Scientific Opinion

D3C -- Delisted Taxon, Recovered

DA -- Delisted Taxon, Amendment of the Act

DM -- Delisted Taxon, Recovered, Being Monitored First Five Years

DO -- Delisted Taxon, Original Commercial Data Erroneous

DP -- Delisted Taxon, Discovered Previously Unknown Additional Populations and/or Habitat

DR -- Delisted Taxon, Taxonomic Revision (Improved Understanding)

AD -- Proposed Delisting

AE -- Proposed Reclassification to Endangered

AT -- Proposed Reclassification to Threatened

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APPENDIX B
NATIONAL PARK SERVICE PRESS RELEASE



National Park Service
U.S. Department of the Interior

Lake Mead National
Recreation Area

601 Nevada Way
Boulder City, NV 89005

Phone: (702) 293-8947
Fax: (702) 293-8936

Lake Mead National Recreation Area News Release

Date: November 7, 2002

Release #: 096- 02

For Immediate Release

Karla Norris, (702) 293- 8947

Public Input Solicited for Projects at Lake Mead National Recreation Area

Superintendent William K. Dickinson announced today that the National Park Service is currently soliciting input for several projects proposed at Lake Mead National Recreation Area. Public input is sought to develop feasible alternatives and formulate issues related to the following projects:

The rehabilitation of the Northshore Road, from mile marker 20.8 to 30.3
Improvements to the Willow Beach, Arizona, waste water treatment facility
Reconstruction of a picnic area at South Cove, Arizona
Rehabilitation of the Roger's Spring picnic facility
Extension of the River Mountain Loop Trail within the boundaries of the recreation area
Placement of wayside exhibits along existing roadways in the recreation area
Realignment of South Telephone Cove Road, Arizona.

The National Park Service will be analyzing these proposals in accordance with the National Environmental Policy Act (NEPA) of 1969. The projects will each be evaluated in separate environmental documents.

Written comments on the projects should be received by December 6, 2002. To submit written comments, or to be included on the project mailing list, please write to: Superintendent, Lake Mead National Recreation Area, Attention: Environmental Compliance Specialist, 601 Nevada Way, Boulder City, Nevada 89005.

For further information on any of the listed projects, please contact Environmental Compliance Specialist Nancy Hendricks at (702) 293- 8756.

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